



# ANALYSIS EXPLORING THE INFLUENCE OF TEACHER-PERCEIVED SUSTAINABLE LEADERSHIP AND ENHANCEMENT STRATEGIES ON CONTINUOUS PROFESSIONAL DEVELOPMENT OF TEACHERS IN CHINESE VOCATIONAL COLLEGES: A GROUNDED THEORY APPROACH

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## Abstract:

The purpose of this study, which is set against the backdrop of teachers' perceived sustainable leadership, is to investigate the key factors that determine the professional development and potential improvement strategies of Chinese vocational college teachers. ten vocational college teachers in Shandong Province, China, were selected for semi-structured interviews using a purposive sampling method, and the interview texts were coded and analysed using the grounded theory. The findings indicated that the continuous professional development of vocational college teachers is significantly influenced by multiple factors, which include teachers' perception of their professional development, schools' policies and systems, the fairness of allocating resources and the organisation's cultural environment. As a result, the professional growth and autonomy of vocational college teachers can be substantially enhanced by establishing a robust institutional guarantee system, fostering a supportive and inclusive organisational culture, and advocating for the implementation of personalised development plans.

**Keywords:** sustainable leadership; vocational college teachers; professional development; influencing factors; improvement strategies; grounded theory

## 1. Introduction

Driven by the development and transformation of the global economy, vocational education assumes a critical role in China's national strategy (Yu & Wu, 2023). China's high-quality vocational education development has entered an accelerating stage, where vocational education plays a significant role in assisting and cultivating students' labor productivity (Baorong, 2023; Gan, 2020). Therefore, the construction of a high-level "dual-

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qualified” teacher workforce with comprehensive capabilities in both theory and practice is imperative to address these constantly changing social demands (Ding, 2022; Feng & Wu, 2021).

Sustainable leadership represents a collective responsibility that generates benefits for all stakeholders by balancing economic, social, and environmental interests in order to cultivate an enduring value. This is achieved by mitigating the harm to these precious finite commodities from human activities by eschewing the unnecessary consumption of human and financial resources (Gerard *et al.*, 2017; Schwalb, 2011). Therefore, the integration of sustainable development with various leadership approaches has emerged as a leadership model focused on long-term effects and multifaceted development. This style of leadership has proved effective in addressing the challenges of sustainability by ensuring that teachers have a new perspective for guiding students and educational institutions toward the future (Edwards *et al.*, 2013; Iqbal *et al.*, 2020; Leal Filho, 2020; Shriberg & MacDonald, 2013). Leadership plays a crucial role not only in enterprises but also has become a fundamental component of educational institutions (Oommen & Vinayagam, 2023). As an increasingly important element of a contemporary educational system, leadership has become a fundamental component of all educational institutes (Munir & Iqbal, 2018), and the implementation of strategies for sustainable leadership in vocational education settings is crucial for the advancement of higher education (Farooq, 2018).

Although there are extensive references to sustainable leadership in various fields, research of this type of leadership is still in its infancy (Liao, 2022; Çayak, 2021). This is especially true of studies from teachers' perspectives, in which the investigation of the impact of sustainable leadership in vocational education on their professional development is notably scarce. It has been suggested by contemporary researchers that sustainable leadership is not only an indication of a school's effectiveness, but also the teachers' work engagement (Nartgün *et al.*, 2020). Furthermore, the professional development of teachers is crucial for teaching quality and talent cultivation (Basma & Savage, 2018; Gore *et al.*, 2017), and it is also an essential aspect of enhancing student learning and the quality of school education (Tran *et al.*, 2021). Teachers' attitudes and behaviors directly affect students' cognitive, emotional and social development (Kahveci, 2023). As a result, it is of paramount importance to investigate vocational teachers' perceptions and understanding of sustainable leadership and its influence on their professional development.

Based on the grounded theory, this paper will involve making a textual analysis of Chinese vocational teachers and undertaking semi-structured interviews with them in order to methodically investigate the factors that affect their professional development. These teachers will be invited to share their strategies for improving their sustainable leadership in order to generate a theoretical foundation for their continuous professional development.

## 2. Literature Review

### 2.1. Sustainable Leadership

The term “sustainable leadership” has drawn a great deal of attention in the green economy sector, having been derived from the integration of sustainable development and leadership (Suriyankietkaew & Avery, 2016). In the educational field, sustainable leadership refers to leaders’ promotion and deep development of learning for all without harming their surroundings and their ability to generate positive benefits, both present and future. In this context, sustainable leadership can reduce educational costs and enhance productivity (Chang, 2013; Hargreaves, 2012; Jafri, 2015).

Diverse scholars have proposed theoretical models of sustainable leadership in the educational field to enable schools to achieve sustainable organisational structures. For instance, Hargreaves and Fink (2004) introduced what they called seven principles of sustainable educational leadership, namely depth, length, breadth, justice, diversity, resourcefulness, and conservation, while the sustainable leadership model of Davies (2007) was set against the backdrop of compulsory education, which is key to the long-term development of schools, and promoted a leadership culture that realises everyone’s ethical objectives. Lambert (2011) developed a theoretical framework for sustainable leadership suitable for continuous education colleges that encompasses the cultivation of staff capabilities, strategic decision participation, consolidation, balancing long-term and short-term objectives, diversity, and conservation, among others.

**Table 1:** Each dimension of sustainable leadership from teachers’ perspective

Dimension	Connotation
Teacher Capacity Building	Refers to leaders providing teachers with opportunities to develop their leadership, management, teaching, professional, and practical skills. This includes various forms of training, mentoring, and work follow-up (Lambert, 2011; Kambil, 2010).
Principle of Diversity	Refers to the ability of leadership to learn from diversity, thereby guiding the organisation to create social inclusiveness and cohesion (Lambert, 2011). This promotes diversified teaching and learning and builds cohesion based on a wide variety of components to drive progress (Hargreaves & Fink, 2012).
Principle of Conservation	Conservation refers to sustainable leadership that respects the past and creates a future. It remains steadfast in change while revisiting and preserving past memories as a form of experiential learning (Hargreaves & Fink, 2012).
Principle of Strategic Decision-Making	Refers to leaders using various means to ensure that all teachers have an opportunity to participate in the organisational construction of the school (Davies, 2007; Lambert, 2011).
Balancing Long-Term and Short-Term Objectives	School leaders should strive to involve internal staff as part of the long-term objectives so that individuals can formulate short-term plans based on the school's long-term goals rather than merely being observers (Lambert, 2011; Middlewood <i>et al.</i> , 1999).
Social Equity and Justice:	Refers to the school's development not harming teachers, students, and the surrounding environment but instead actively improving the surroundings and proactively seeking ways to share knowledge and resources with neighbouring

	schools and the contemporary community (Hargreaves & Fink, 2012). This concerns the delivery of social justice by ensuring that all students and teachers benefit and the emergence of privilege is avoided (Hargreaves & Goodson, 2004).
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The theoretical framework of sustainable leadership introduced by Lambert (2011) is used in this paper to construct a theoretical model of sustainable leadership in higher vocational education from the perspective of teachers. This model has six dimensions, which include teacher capacity building, the principle of diversity, the principle of conservation, participation in strategic decision-making, balancing short-term and long-term objectives, and social justice, as illustrated in Table 1.

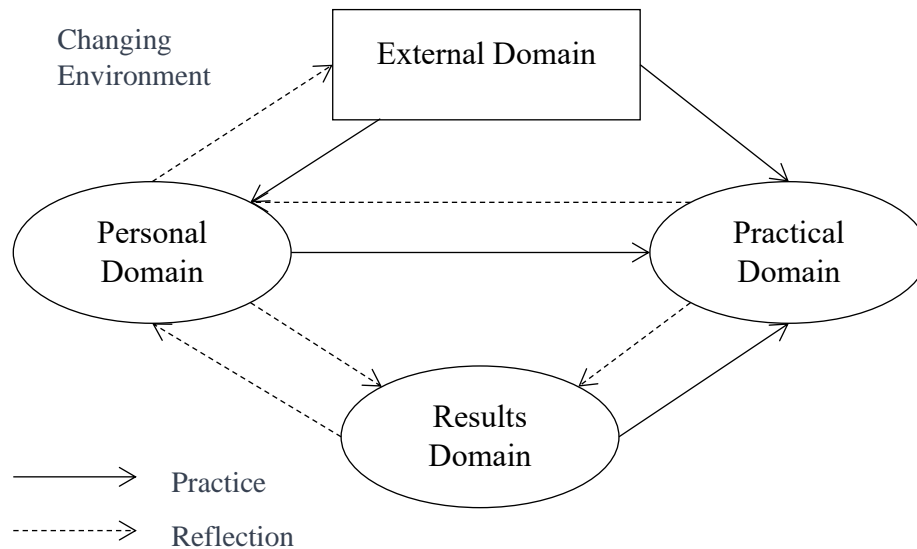
## 2.2 Teacher Professional Development Interconnection Model

The Teacher Professional Growth Interconnection Model introduced by Clarke and Hollingsworth (2002) was based on the implicit model of the purpose of teachers' professional development and the teachers' change process model. It comprises four distinctive domains: the personal domain (teachers' knowledge, beliefs and attitudes), the domain of practice (professional practices), the domain of consequence (significant outcomes), and the external domain (external stimuli or support). The professional growth of any teacher occurs within a changing environment and is influenced by environmental constraints (Hollingsworth, 1999).

The Teacher Professional Growth Interconnection Model is illustrated in Figure 1 below. In the external domain of teachers' professional development, in-service training, which includes workshops and courses that are aimed to continually update teachers' knowledge and skills, is the most common source of informational stimuli (Little, 1992). Informal online communities and networks also provide teachers with opportunities to voluntarily engage in shared learning, reflect on their teaching practices, and receive emotional support (Macià & García, 2016). In the practice domain, teachers employ group teaching, and student self-assessment and engage in professional experiments. This combination of various teaching resources and methods complements and enhances contemporary teaching practices (Estai & Bunt, 2016). In the personal domain, changes in teachers' knowledge, beliefs, and attitudes are reflected in their teaching strategies (Copur-Gencturk, 2015). The domain of consequences includes students' achievements, learning beliefs, and teacher-student interactions (Clarke & Hollingsworth, 2002).

Although this interconnected model emphasises the link between cognition and context and the complementary nature of knowledge and practice (Clarke, 2001), both instructional models and teacher professional development models need to be more sophisticated due to the increasing complexity of teaching. The school environment and instructional demands must both be taken into account for teacher change to be effective (Clarke & Hollingsworth, 2002; Darling-Hammond, 1997).

**Figure 1: Interconnected Model of Professional Growth for Teachers**



Furthermore, the Teacher Professional Growth Interconnection Model implies that change occurs via a mediating process of reflection and practice that encompasses four different professional teacher domains (Clarke & Hollingsworth, 2002). Changes in an individual teacher are driven by practical actions that affect the external environment, while internal progress is stimulated by changes in the external environment based on the teacher's reflection. These two aspects mutually influence and promote each other; any change in one of them will induce a transformation in the other (Hollingsworth, 1999).

### 2.3. Teacher Perceived Sustainable Leadership Professional Development Model

The purpose of this paper is to produce a model for the professional development of teacher-perceived sustainable leadership based on the theoretical model of teacher-perceived sustainable leadership and the Teacher Professional Growth Interconnection Model previously proposed by Clarke and Hollingsworth (2002).

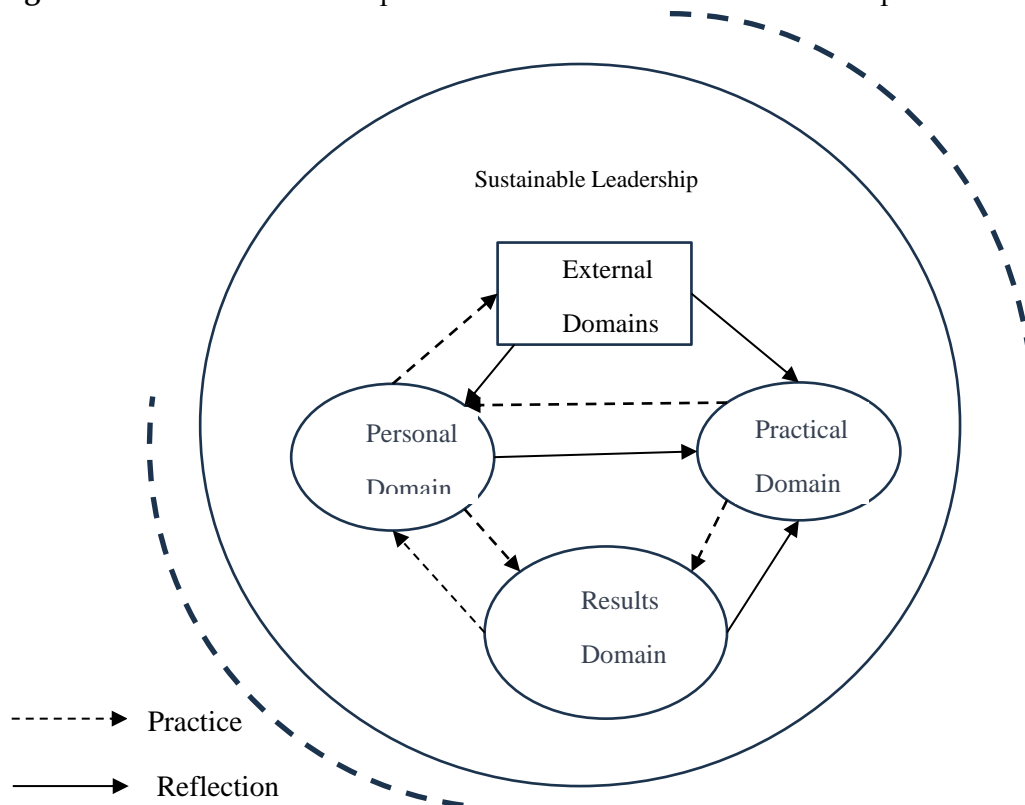
In Figure 2, various aspects, including teacher job satisfaction and performance, can be enhanced by integrating teacher capacity building in the school's superstructure, balancing long-term school goals with short-term teacher objectives, and increasing teachers' participation in school decision-making, with a backdrop of teacher-perceived sustainable leadership (Asuquo & Okon, 2020; Ingersoll & May, 2012; Kelly, 2004; Park *et al.*, 2023). In this context, guided by the principles of fairness, protection and diversity, the school administration can foster the most conducive external environment for teachers' professional growth, ensuring the continuity of professional development.

Furthermore, sustainable changes in teachers' behaviour originate from their practice and reflection and their integration into the school's leadership plans. This dual

combination promotes teachers' continuous professional development (Van den Bergh *et al.*, 2014). Teachers' personal practical knowledge forms the core of their professional growth, influencing all aspects of their work (Verloop *et al.*, 2001). Schools can enhance teachers' knowledge and skills with various activities, including workshops, degree enhancement programmes, training sessions, and leadership participation and support (Hallinger *et al.*, 2017; Hilton *et al.*, 2015; Kershner *et al.*, 2013; Qian *et al.*, 2017).

In the external domain, educational policymakers can enhance teachers' efficiency and capabilities by designing comprehensive teacher training programmes that include continuous assessment, support and feedback (Wonacott, 2002). The effective and sustainable professional development of teachers requires a balance between short-term and long-term goals (Van den Bergh *et al.*, 2014), and individual development plans are pivotal governance tools in schools' leadership policies (Parding & Liljegren, 2017). Therefore, schools should promote teachers' professional growth and cultivate more capable educators by developing comprehensive plans that encompass both long-term and short-term objectives, along with the development of knowledge, beliefs and practices based on clear guidance and support.

**Figure 2:** Professional Development Model of Sustainable Leadership for Teacher



The aforementioned theoretical models and the current state of higher vocational education were used to compile a semi-structured interview outline. The validity of the content was examined by experts, and the questions were subsequently revised based on the responses of pilot interviews from two vocational college teachers.

The finalized questions were as follows;

- 1) What fundamental qualities do you believe higher vocational teachers should possess?
- 2) What specific effects do the school's policies and systems exert on teachers' professional development?
- 3) What opportunities exist for teachers to actively engage in school management and decision-making processes?
- 4) What are the practical consequences of the school's long-term planning and short-term goal setting for teachers' professional development?
- 5) What is the impact of school leadership turnover on teachers' professional development?
- 6) What is your perspective on the issue of fairness within the school, and how does it affect teachers?
- 7) What specific effects does the school's organisational culture and environment have on teachers?
- 8) What strategies do you believe higher vocational colleges should adopt to facilitate teachers' ongoing professional development?

### **3. Research Methods**

#### **3.1 Participants**

Ten Chinese higher vocational teachers, including 2 teaching assistants, 5 lecturers, 2 associate professors, and 1 professor were selected as the participants of this study by using a purposive sampling method. The data was collected between September and November 2023, when both online and offline interviews were conducted of varied durations, ranging from 20 to 60 minutes. All the interviews were recorded on-site with the interviewees' permission, and the transcribed data was anonymised to ensure their confidentiality. A combination of letters and numbers was used to code the respondents, with "M" denoting "Male", "F" denoting "Female", "T" standing for "Teacher" and a number indicating the sequence of the interviewee, as illustrated in Table 2.

**Table 2:** Basic Information of Interviewed Teachers

Code	Gender	Title	Education	Teaching Experience	Position
MT-01	Male	Lecturer	Master's Graduate	7	Teacher
FT-02	Female	Lecturer	Doctoral Student	10	Teacher
FT-03	Female	Lecturer	Doctoral Student	9	Teacher
MT-04	Male	Lecturer	Master's Graduate	20	Teacher
FT-05	Female	Professor	Master's Graduate	22	Teacher
FT-06	Female	Teaching Assistant	Master's Graduate	3	Teacher
FT-07	Female	Teaching Assistant	Master's Graduate	3	Teacher
FT-08	Female	Associate Professor	Doctoral Student	19	Teacher
FT-09	Female	Associate Professor	Master's Graduate	15	Teacher
MT-10	Male	Lecturer	Doctoral Student	9	Teacher

### 3.2 Data Collection

This study employs the principle of purposive sampling. In the sample selection process, externally hired teachers and non-teaching administrative staff at higher vocational institutions are excluded from consideration. Various methods, such as face-to-face interviews, online interviews, and voice interviews, are employed based on each respondent's situation. To ensure a comprehensive and in-depth exploration of the research issues, prior to the interviews, consent from the participants is obtained. A clear consent form is provided, elaborating on the research purposes. The study strictly adheres to ethical standards and national regulations, ensuring the confidentiality and security of participant information and recorded materials. In the research manuscripts, the personal information and interview content of participants are anonymized to prevent potential harm to their mental, reputational, or physical well-being. Throughout the interview process, emphasis is placed on the rights of participants, including the right to refuse to answer any questions that make them uncomfortable and the right to withdraw from the study at any time without facing any negative consequences.

### 3.3 Data Analysis

During the data analysis stage, this study employed Nvivo for coding and adhered to the three-level coding approach of Grounded Theory, encompassing open coding, axial coding, and selective coding (Oktay, 2012).



Initially, through open coding, a preliminary and non-directed exploration of the raw data was conducted. The objective was to identify key concepts related to the factors influencing and strategies for enhancing teachers' professional development in the interview text data, laying the foundation for subsequent analysis. Subsequently, during axial coding, a more in-depth theoretical framework was established based on the identified key concepts. This process involved clarifying the relationships between concepts to create a more systematic and organic theoretical structure. Finally, through selective coding, the established theoretical framework underwent further refinement and elaboration. The aim was to attain a deeper understanding of the inherent connections between key concepts and identify potential patterns and trends. Additionally, the entire data analysis process was conducted under the mentor's guidance and independently executed by the research personnel (Oktaý, 2012).

### **3.4 Extract Concepts**

In the initial stages of open coding, the original interview data are marked, categorized, or encoded to label various phenomena, concepts, or events present in the data (Charmaz, 2006). The aim is to identify key concepts relevant to influencing and enhancing teachers' professional development, revealing multiple factors and enhancement strategies closely associated with teachers' professional development. For instance, concerning factors influencing teachers' professional development, concepts related to teachers' teaching experience, educational level, academic title, and the like were identified. Regarding improvement strategies for enhancing teachers' professional development, strategically significant concepts related to teachers' advanced courses, continuous participation in training, and similar approaches were discovered.

#### **3.4.1 Coding**

Building upon Open Coding, axial coding was employed to systematically organize and categorize factors influencing the sustained professional development of teachers, as well as improvement strategies (Charmaz, 2006; Oktaý, 2012). A total of 24 primary axial codes were identified, such as in teachers' self-perception of professional development, encompassing professional knowledge, pedagogical knowledge, practical knowledge, and overall teacher competence.

#### **3.4.2 Categorizing**

Building upon axial coding, researchers selectively delve into analyzing and integrating certain core concepts to establish a more comprehensive and cohesive theory (Charmaz, 2006). In classifying factors influencing the sustained professional development of vocational college teachers, a total of 7 factors were identified, including teachers' multidimensional cognitions of their professional selves, policy and institutional frameworks, teacher participation in school management, balancing long-term and short-term goals, turnover of school leadership, fair distribution of school resources, and

construction and maintenance of organizational culture. In identifying improvement strategies, three main categories were recognized, including establishing a clear and flexible institutional guarantee system, cultivating an inclusive organizational cultural environment, and promoting the individual autonomy of teachers' development.

#### 4. Results

In conducting a textual analysis of the interview data against the backdrop of the aforementioned model of teachers' perception of sustainable leadership for professional development, it was possible to examine the main factors that affect vocational college teachers' professional development in depth from various aspects: teachers' cognition of their professional development, school policy mechanisms, teacher participation mechanisms, alignment of school goals with individual teacher planning, changes in school leadership, fairness in the distribution of school resources, and the construction of organisational culture. It was also possible to establish three improvement strategies: an institutional guarantee system, organisational cultural environment, and individual teacher autonomy, as shown in Table 3.

##### 4.1 Analysis of the Factors Vocational College Teachers Perceive that Sustainable Leadership Affects their Professional Development.

Based on the grounded theory analysis of the interview texts, vocational college teachers perceive that multiple factors affect their sustainable professional development. Firstly, they have multidimensional cognitions of their professional development and perceive it to be influenced by the school policy system, the extent of their participation in strategic decision-making at the school, the planning of the school's long-term and short-term goals, changes in the school's leadership, the fair distribution of the school's resources, and the structure of the school's organisational culture. The specific content analysis is described in detail below, as illustrated in Table 3.

Firstly, the multidimensional cognition of vocational college teachers of their professional development refers to their understanding of comprehensive qualities that range from professional knowledge to research capabilities and then to teaching practice and professional ethics. These factors together constitute the framework for the professional development of vocational college teachers, with a particular emphasis on the role of innovative teachers, reflecting the new expectations and challenges for teachers in the current field of vocational education. Interviewee (FT-08) mentioned during the interview, *"Being a vocational college teacher is not only about imparting theoretical knowledge, but also focusing on the transfer of skills."* Meanwhile, teachers (FT-02) and (FT-05) pointed out that vocational colleges have a primary task of cultivating students with high-level practical skills, and theory and practice should be integrated to give them rich practical experience.

Secondly, policy and institutional frameworks are key factors in the professional development of vocational college teachers. They play multiple roles that can primarily be categorised into two types: those stemming from school organisational management and those from organisational development. The directive role of systems is initially emphasised in the school organisational management, highlighting the importance of policies in guiding teachers' behaviour and career development direction, demanding adaptation to new teaching and research management models. For instance, a teacher (MT-01) underscored the role of the policy's directive nature in teachers' careers, noting that "*The professional title policy is the baton in teachers' daily work that guides their behaviour*". Subsequently, the development of the school organisation by management and incentive mechanisms demonstrates how policies foster teachers' growth based on motivation and strategic collaboration.

Thirdly, the results of this study indicate that, although vocational college teachers have limited participation in school management, they can become actively involved by using various mechanisms. This not only enhances teachers' sense of responsibility, belonging and enthusiasm, but it also has a positive effect on the school management's efficiency and quality of decision-making.

These findings emphasise the importance of promoting teacher participation in management in the vocational education context and the dual value of this participation for teachers' personal development and the school's overall growth. For example, in the interviews, a teacher (FT-09) stated that "*Being involved in the management of the school gives a huge boost to teachers' enthusiasm by endowing them with a sense of ownership and responsibility, thereby enhancing their work passion.*" Additionally, a teacher (FT-07) remarked that "*Teachers can influence school decisions by participating in management activities and offering their suggestions and strategies for the school's development.*"

Fourthly, in the educational environment of vocational colleges, the professional development of teachers depends on the balance between the school's long-term and short-term goals (MT-01; FT-07; FT-02). It was mentioned in the interviews that the school's long-term plan is usually aligned with national policies, providing an overall direction for teachers' development. As the teacher (MT-01) said, "*The school has a macro plan called the 'Fourteenth Five-Year Plan,' which is consistent with national planning and implemented according to national policies and educational requirements.*" However, the planning and implementation of teachers' personal development largely depend on their autonomy, as "*Teachers' professional development still primarily relies on their individual planning and autonomy, with relatively less support from the school*" (MT-01). In summary, schools and teachers need to collaborate by engaging in continual communication, coordination and adjustment in order to harmoniously align individual teachers' career development with the school's overall developmental goals, thereby making a better contribution to the educational cause (MT-01; FT-07; FT-02).

**Table 3:** Coding Table for The Analysis of Factors Influencing the Sustainable Development of Vocational College Teachers' Professionalism (Partial Excerpt)

Categories	Sub-Categories	Concepts
Teachers' Multidimensional Cognition of Self-Professional Development	- Teachers' Cognitive Competence	- Professional Knowledge - Pedagogical and Practical Knowledge - Teacher Ethics - Innovative Teaching
Policy System	- School Organizational Management - Organizational Development of the School	- System Orientation - Academic Management Innovation - Organizational Management and Incentive Mechanisms - School Management Needs
Limited Teacher Engagement in School Management	- Mechanisms for Teacher Participation - Ownership Spirit	- Limited Teacher Engagement - Mechanisms for Teacher Involvement in School Management - Ownership Spirit
Balancing Long-term and Short-term Goals of the School	- Teacher Attachment to Individual Development, Insufficient School Support	- Teachers Relying on Individual Autonomous Planning - Schools Providing Direction and Opportunities
Leadership Succession in the School	- Organizational Change - Leadership Transformation	- Adjustment of Organizational Management Approach - Reconstruction and Development of Teacher Work Relationships
Fairness in School Resource Allocation	- Challenges in Fairness of Resource Allocation - Multifaceted Challenges in Fair Resource Allocation - The Multiplicity of Impacts on Teachers	- Challenges in Fairness of Opportunity Distribution - Resource Constraints - Leadership Networks and Subjectivity - Teacher Adaptability - Concentration of Elitism - Inequality in Subject Areas
Organizational Culture of the School	- Institutional Foundation of School Culture Construction - Organizational Culture and Working Atmosphere	- Leadership Style Affects Teachers' Teaching Attitudes - Long-term Pressure Affects Work and Family - Driving Force of Organizational Culture Development

Fifthly, the turnover of school leadership has a profound impact on teachers and the overall environment of vocational colleges. The appointment of new leaders, who reconstruct working relationships and introduce new communication methods while implementing incentive mechanisms and policy adjustments, challenges teachers' daily work and career development, although it also stimulates their active participation in academic and administrative activities. Changes in leadership simultaneously intensify the bureaucracy of the school management system, which affects the teachers' working environment and the school's cultural atmosphere. This presents both challenges and new development opportunities as it requires a joint effort from teachers and the school to achieve professional adaptation and long-term development goals (FT-07, FT-08, FT-02, MT-01, FT-10).

Sixthly, the interview data revealed a complex interplay between the professional development of teachers and the fairness of allocating school resources, which emphasises the importance of considering the multiple factors involved in resource distribution strategies. This is primarily manifested in the fairness and challenges involved in allocating school resources and their multifaceted nature. For instance, the teacher (MT-04) mentioned in the interview that *"It's impossible to achieve absolute fairness in training opportunities, as some core and advantaged specialties may receive more training and external exchange opportunities."* Meanwhile, the teacher (MT-10) observed that the allocation of training opportunities in programmes like provincial and national training is restricted due to limited resources, which directly affects the distribution of training opportunities.

Seventhly, the construction and maintenance of the school's organisational culture is a multidimensional and highly interactive process. Its key factors were explored in detail in this study using the grounded theory, and it was first found that the school culture and teachers' work attitudes are profoundly influenced by the management style. Secondly, the institutional foundation of the school culture structure is another key factor, including the establishment of systems and the cultivation of academic and teaching styles. The establishment and improvement of systems represent a framework and guidance for the school, reflecting its values and commitment to education (FT-05). Additionally, there is an interaction between the organisational culture and the work atmosphere. Furthermore, cultural dissemination and incentive mechanisms play key roles in constructing and maintaining school culture. Schools can use campus cultural activities and creative projects to effectively disseminate their philosophy and enhance campus cohesion. Incentive mechanisms, such as recognition activities and the promotion of positive energy, stimulate the active participation of teachers and students, fostering the healthy development of the school culture (MT-04, FT-09).

In summary, the construction and maintenance of schools' organisational culture is a complex process that requires the wisdom of leadership and the active participation of all members. The management style, institutional foundation, the interaction between the organisational culture and work atmosphere, as well as cultural dissemination and incentive mechanisms, were found to be significant factors that affect the school culture. These interview findings provide school administrators with valuable insights on how to strengthen the school culture and thereby create a more positive learning and working environment (MT-04; FT-09; FT-03; FT-05; FT-08).

#### **4.2 Analysis of Strategies to Improve the Continuous Professional Development of Teachers in Higher Vocational Colleges**

The analysis of the interview texts reveals that strategies to improve the continuous professional development of teachers in higher vocational colleges are primarily based on three factors: an institutional guarantee system, an organisational cultural environment, and teachers' personal autonomy. Therefore, the theoretical framework of

sustainable strategies to improve the development of professional teachers in higher vocational colleges is illustrated in Figure 3, followed by a detailed analysis.

#### **4.2.1 Establish a Clear Institutional Guarantee System**

Institutional guarantee strategies play a key role in higher vocational college teachers' sustainable professional development. The areas that collectively influence teachers' enthusiasm and professional growth, which higher vocational colleges need to focus on and improve, include the implementation of clear policies and institutional frameworks, equal training opportunities, sufficient funding support, and autonomy in professional development. It was indicated in the interviews that higher vocational college teachers universally believe that institutional guarantees are a crucial factor in their professional development. As the teacher (MT-10) noted, *"I believe there should be some policy and institutional guarantees for the personal development of teachers. How can we meet the professional growth needs of most teachers when not everyone has equal opportunities for training? Every teacher needs professional development, not just outstanding ones."*

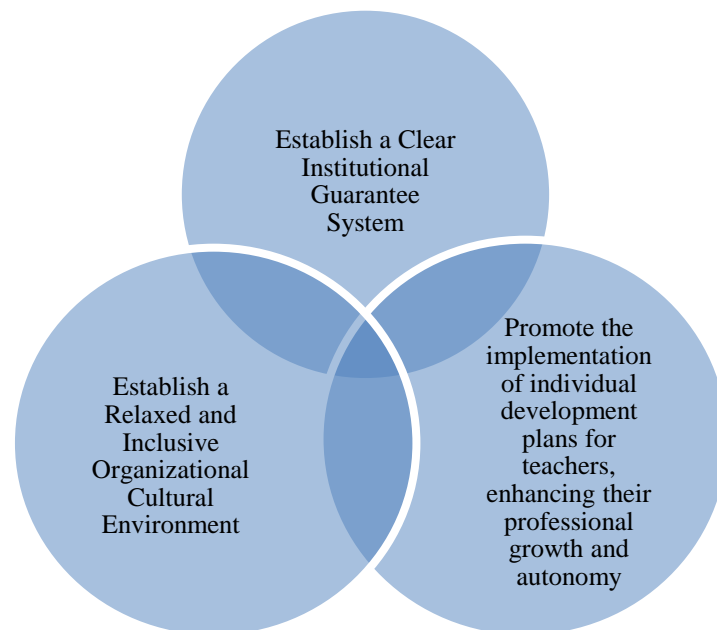
Financial support is considered to be a key factor in realising teachers' professional development. For instance, Teacher (FT-09) emphasised that *"The key is whether the school can support me in participating in training, including financial support, such as reimbursing the training costs. This is crucial for enhancing teachers' enthusiasm. If the school cannot support teachers' autonomous choice of beneficial development activities, it may lead to them having a negative attitude."*

Teacher (MT-01) pointed out that *"We need to refer to undergraduate institutions to become more systematic and specialised in academic disciplines, with professionals doing professional work."* This reflects the need to reform the existing educational model and emphasises the importance of specialisation. In terms of research capabilities, Teacher (FT-02) mentioned, *"I hope there can be more professional specificity, more opportunities and specific financial support."* This indicates that teachers believe that resources, especially in the form of financial support, are crucial for enhancing their research capabilities and professional development.

#### **4.2.2 Establish a Relaxed and Inclusive Organisational Cultural Environment**

The establishment of a relaxed and inclusive organisational culture is one of the key strategies to improve the sustainable professional development of teachers in higher vocational colleges. This includes de-administration, the establishment of an adaptive organisational culture to meet the needs of young teachers, the implementation of fair and transparent title evaluation and promotion mechanisms, the strengthening of effective interactions between leadership and teachers, and the alignment of educational goals and methods with the actual needs of students and teachers. Higher vocational colleges can create a more supportive and equitable work environment by implementing these strategies to promote teachers' professional growth and innovative spirit, as illustrated in Figure 3.

**Figure 3:** Theoretical Framework of Strategies to Improve the Sustainable Professional Development of Teachers in Higher Vocational Colleges



Firstly, the teachers expressed a widespread belief that de-administration is the key to improving the quality of education. Teacher (FT-03) noted that “*Higher vocational colleges should de-administrate. Although they talk about doing it, they are becoming increasingly bureaucratic.*” This reflects criticism of the existing model of educational management and emphasises the need for a more flexible work environment that meets teachers’ needs. Teacher (FT-09) specifically highlighted the importance of an adaptable organisational culture: “*Schools should create an adaptable organisational culture that responds to the ideas and values of young teachers, to promote cohesion, enthusiasm, and creativity among teachers.*”

Secondly, mechanisms that evaluate professional titles and job promotion are one of the primary interests of full-time teachers. The effectiveness of these mechanisms has a direct impact on their professional motivation and satisfaction. In the interview, Teacher (FT-03) emphasised the importance of fairness in the title evaluation and promotion process: “*Greater fairness in the evaluation of professional titles and job promotion can truly inspire teachers’ motivation to advance.*”

Furthermore, leadership has a significant impact on the professional development of teachers in higher vocational colleges, particularly in terms of understanding their needs, communication methods and providing support. Teacher (FT-05) emphasised the importance of leadership understanding the needs of frontline teachers, noting that they should be more aware of teachers’ thoughts and needs to create a warm, supportive school environment.

### **4.2.3 Promote the Implementation of Individual Development Plans for Teachers that Enhance Their Professional Growth and Autonomy**

The provision of development plans for individual teachers in higher vocational colleges is extremely important for enhancing their professional growth and autonomy. As Teacher (MT-04) stated: *“If individual teachers want to continue their professional development, they must first make an accurate positioning and then undertake a more detailed development plan. I believe that this is the only way to truly achieve continuous development.”* This indicates that teachers recognise the need for clear goals and plans for their personal career development to ensure that growth is sustained and directed. Furthermore, as Teacher (FT-06) mentioned: *“Professional teachers are recommended to better integrate theory and practice, collaborate more with enterprises, and set talent training programmes from a job perspective.”* This reflects teachers’ need to combine practical experience and theoretical knowledge, as well as indicates the importance of cooperating with various enterprises.

Teachers’ enthusiasm and innovative capability can be effectively stimulated by the formation of an individual development plan, the role of which was highlighted by Teacher (FT-09): *“In the future, the human resources department or development centre should require teachers to formulate and submit their development plans on an annual basis. This practice could stimulate teachers’ enthusiasm and serve a certain supervisory function.”* This indicates that teachers believe that their autonomy and professional motivation can be effectively enhanced by creating their own individual development plans.

In summary, three key strategies were identified in the interviews as being capable of improving the sustainable professional development of teachers in higher vocational colleges. The first was the construction of an institutional guarantee system, while the second was the establishment of an organisational cultural environment, and the third was the enhancement of teachers’ personal autonomy. A combination of these three strategies would be certain to create a more supportive and equitable work environment, which would promote teachers’ enthusiasm and professional growth. Higher vocational colleges should establish a clear institutional guarantee system, including policy clarity, equal training opportunities and financial support to ensure that teachers receive essential support and resources. The simultaneous establishment of a relaxed, inclusive organisational culture, such as de-administration, that can adapt to the culture of young teachers and fair and transparent evaluation mechanisms would help to increase teacher satisfaction due to a positive work atmosphere. Lastly, the implementation of individual development plans for teachers, with clear professional goals and planning, would help to stimulate teachers’ enthusiasm and innovative capabilities, ensuring that their professional growth has a clear direction. This would provide beneficial guidance and support in order to sustain the professional development of higher vocational college teachers, thereby enhancing the quality of education and cultivating more talents of high quality who meet the needs of societal development.



## 5. Discussion

This study, based on its research objectives, investigates the reasons for the impact of perceived sustainable leadership on the professional development of higher vocational education teachers in Shandong Province, China, as well as strategies for improving the sustainable development of teachers' professions. The study utilizes grounded theory for the analysis of textual data. The results reveal multifaceted reasons affecting the sustainable development of teacher professions. Firstly, vocational teachers exhibit multidimensional cognition towards their own professional development. Additionally, factors such as school policy systems, the extent of teacher participation in strategic decision-making at schools, the planning of long-term and short-term goals, changes in school leadership, the fairness of school resource allocation, and the influence of school organizational culture also contribute to these impacts. Furthermore, the study explores improvement strategies for the sustainability of teacher professions. The results indicate that improvement strategies for the sustained development of teachers in higher vocational institutions are analyzed primarily from three dimensions: institutional guarantees, organizational cultural environment, and individual teachers. Detailed discussions on the research results will follow below.

### 5.1 Causes of Sustainable Development in Higher Vocational Teachers' Professions

Firstly, this study resonates with previous research in various aspects, particularly regarding the influence of leadership styles and management strategies. For instance, Timoshko (2020) emphasizes humanistic approaches in management and their impact on organizational culture, aligning with this study's findings on the influence of leadership styles on teachers' professional development. Additionally, Piyaman *et al.* (2017) explore differences in principal leadership and teacher professional learning in urban and rural primary schools in Thailand, confirming a model where school leadership significantly indirectly influences teacher learning, further underscoring the importance of leadership in teacher professional development.

Furthermore, the results of this study align with previous research on the complexity of resource allocation fairness and policy implementation. Alamsyah *et al.* (2022) discuss the complexity of policy implementation, particularly in the development of teacher work culture, resonating with the discussion in this study regarding the impact of school policy systems on teacher professional development. The latter study reveals factors related to policy content and implementation environments, emphasizing the importance of considering diverse factors when formulating and implementing policies. These findings underscore the crucial roles of leadership, resource allocation, and policy implementation in influencing teacher professional development, providing valuable insights for school administrators and policymakers. The strategies of resource allocation and the approach to policy implementation hold significant relevance for teachers' professional development and educational reform (Samadraxha *et al.*, 2021), aligning

with the notable impact of fairness in resource allocation on teacher professional development in this study.

The multidimensional influencing factors identified in this study may be attributed to the following reasons: firstly, the professional development of higher vocational teachers is profoundly influenced by social-cultural backgrounds and education policies, where these external factors provide both frameworks and limitations for teachers' professional development. Secondly, internal management practices within schools, such as leadership styles, resource allocation strategies, and organizational culture development, directly impact teachers' work environments and opportunities for professional growth. Lastly, the cognitive abilities and autonomy of individual teachers play a crucial role in their professional development; the proactivity and adaptability of teachers are essential for addressing external changes and internal challenges.

## **5.2 Improvement Strategies for the Sustainable Development of Teachers' Professions in Higher Vocational Colleges**

This study delves into improvement strategies for the sustainable development of teachers' professions in higher vocational colleges, identifying three main areas of improvement strategies: institutional guarantees, organizational cultural environment, and individual teacher autonomy. These align correspondingly with existing literature.

The research findings align with Dang (2019), highlighting the crucial role of clear policies and institutional frameworks in the professional development of teachers in higher vocational education institutions, further confirming the significance of institutional guarantees. This resonates with the perspective of Huang *et al.* (2020), emphasizing the crucial importance of institutional guarantees in stimulating teacher motivation and promoting professional growth. Bautista *et al.* (2022) stress the need for a balance between institutional policies and teacher autonomy in supporting professional development, emphasizing the necessity of establishing a flexible yet guiding policy environment to support the diverse development needs of teachers.

The research results indicate that decentralization and establishing an organizational culture adaptable to young teachers are key to enhancing educational quality. This aligns with the study by Magsumov *et al.* (2022), emphasizing the importance of creating a supportive organizational culture environment for young teachers. These findings consistently underscore the significance of establishing an adaptive and inclusive organizational culture to support the professional growth of teachers, especially young teachers, and enhance overall educational service quality.

The study also reveals specific needs and expectations of teachers regarding personal development plans, emphasizing the critical role of personal development plans in higher vocational colleges. This aligns with the research by Peng (2022), highlighting that providing clear development paths and goals can stimulate teacher enthusiasm and enhance their professional motivation and innovation capabilities. These studies

consistently underscore the crucial role of individual development plans for adaptive, personalized, and effective professional development.

Possible reasons include changes in the education sector, organizational demands for adaptability and inclusiveness, and the diversity of individual teacher development needs. Understanding these reasons contributes to more effectively supporting the professional growth and autonomy of teachers, thereby enhancing overall educational quality.

## 6. Recommendations

Firstly, it is recommended that future researchers broaden the scope of influencing factors, such as exploring the relationships between teachers' perceived sustainable leadership and teacher organizational commitment, job satisfaction, perceived school effectiveness, etc. (Çayak, 2021; Nartgün *et al.*, 2020). Additionally, based on the limitations of this research method, future researchers, when designing studies, should consider some potential variables, such as teachers' intrinsic motivation and teacher beliefs. They should attempt to integrate in-depth quantitative and qualitative research to more comprehensively grasp teachers' authentic experiences in different backgrounds and situations, thereby gaining a deeper understanding (Graf, 2019). Moreover, to better grasp the long-term impact of teachers' perceived sustainable leadership on professional development, future research could consider adopting a longitudinal tracking design, monitoring teachers' development at various time points to obtain more comprehensive and in-depth research results.

## 7. Limitations

In this study, it is imperative to consider certain limitations to ensure an accurate comprehension of the research findings. Firstly, the limitations of the sample primarily manifest in the limited coverage of vocational colleges, potentially failing to adequately represent all types and regions of vocational education institutions. Consequently, there is a limitation to the generalizability of the research findings. Secondly, the research methodology, utilizing interview analysis, although delving into teachers' perspectives and experiences, is still constrained by subjectivity and individual differences. Future research could consider integrating quantitative methods to enhance the objectivity of the research findings. Thirdly, due to the study's completion within a limited timeframe, it may not comprehensively capture the long-term evolution of the educational environment and policies, potentially resulting in an incomplete reflection of long-term impacts and changes. Additionally, during the interview process, teachers' self-reports may be influenced by subjective intentions and societal expectations, potentially introducing self-reporting bias and influencing the objectivity of the research findings. Lastly, the study inadequately considers the impact of different cultural backgrounds on

teachers' professional development, potentially limiting the generalizability of the research findings across diverse cultural contexts.

## **8. Improvement Suggestions for the Professional Continuity Development of Vocational College Teachers**

Some strategies to improve the sustainable professional development of teachers in higher vocational colleges can be proposed based on the interview analysis. Firstly, it is important to establish a clear institutional guarantee system that includes policy clarity, equal training opportunities, financial support, and teachers' autonomous choice. These institutional guarantees can ensure that teachers receive the support and resources necessary to promote their professional development. Secondly, establishing a relaxed and inclusive organisational culture, including de-administration, which can be adapted to the culture of young teachers, fair and transparent evaluation mechanisms, and effective interaction between leadership and teachers, can all help to create a more supportive and equitable work atmosphere, thereby increasing teachers' satisfaction. Lastly, promoting the implementation of individual development plans for teachers, with clear professional goals and planning, helps to stimulate their enthusiasm and innovative capabilities, ensuring a clear direction for their professional growth.

Based on the above research results and conclusions, future researchers can focus on three key aspects. Firstly, they can further explore the actual effects of the proposed improvement strategies by tracking the professional development and satisfaction of teachers in higher vocational colleges in the long term. Empirical research like this will help to determine which strategies are most effective and how they can have a lasting impact on teachers' careers. Secondly, they can compare the situation between different higher vocational colleges in order to identify how the different inherent policy, culture, and resources in various types of institutions affect teachers' sustainable professional development. Lastly, future research can be focused on more in-depth organisational culture studies, including aspects such as leadership roles, communication methods, cultural dissemination, and incentive mechanisms. A deeper investigation will provide a comprehensive understanding of how these factors shape teachers' work environments and career development, thereby providing more effective improvement strategies for higher vocational colleges. This, in turn, will continuously enhance the quality of education in higher vocational colleges and cultivate high-quality talents who are better adapted to contemporary societal needs.

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### **Conflict of Interest Statement**

The authors declare that there are no conflicts of interest to disclose.

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Yongjiu Gao, Pengfei Chen  
ANALYSIS EXPLORING THE INFLUENCE OF TEACHER-PERCEIVED SUSTAINABLE  
LEADERSHIP AND ENHANCEMENT STRATEGIES ON CONTINUOUS PROFESSIONAL DEVELOPMENT  
OF TEACHERS IN CHINESE VOCATIONAL COLLEGES: A GROUNDED THEORY APPROACH

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